

### **Abstract**

Methods are described for producing reduced, methylated, biologically active forms of folate, including 5-methyltetrahydrofolate (i.e. 5-methyltetrahydropteroylglutamic acid), 5-formyltetrahydrofolate, 10-formyltetrahydrofolate and tetrahydrofolate. Edible mushroom-producing fungi are cultivated to enhance the uptake of pteroylmonoglutamate (synthetic folate) into edible portions of the plants. The mushroom-producing fungi reduce and methylate the pteroylmonoglutamates into activated folates. The cultivated mycelia or mushrooms of the mushroom-producing fungi are harvested, and may be consumed directly or processed into oral dosage formats (capsules, tablets, softgels, powders, gel packets, liquids, nutritional bars, beverages) for use as functional foods or nutritional supplements.